UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,917	05/01/2001	Thomas Joseph Killian	2685/5434	4661

7590	03/03/2006

Samuel H. Dworetsky
AT&T CORP.
Room 2A-207
One AT&T Way
Bedminster, NJ 07921

EXAMINER
MEW, KEVIN D

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 January 2006</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-35</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>8/28/2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Detailed Action

Response to Amendment

1.   Applicant's Remarks/Arguments filed on 1/23/2006 regarding claims 1-35 have been

fully considered. Claims 1-35 are currently pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

2.   Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 32 recites the limitation "said virtual private network" in line 9 of the claim. There

is insufficient antecedent basis for this limitation in the claim because it is unclear as to whether

"said virtual private network" refers to "external private networks" in line 2 or to "virtual local

area network" in line 4 of the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   **Claims 1-9, 11-12, 14-21, 23-29, 31** are rejected under 35 U.S.C. 102(e) as being

anticipated by Tingley et al. (US Publication 2002/0138628).

Regarding claim 1, Tingley discloses a system for exchanging information on a network

(see server farm configuration of the system in Fig. 3; note that the system comprises elements

60, 62, 64, 66, 68, 70, 72, 64, 76, 78), comprising:

a switch (**Smart bridge or switch**, element 66, Fig. 3) coupled to a plurality of ports (**the**

end point of the Smart Bridge or switch is interpreted as a port that couples to the Virtual

Networking Device VND and the end points of the switch that connects to the Virtual

Networks A, B, C are considered as other ports, see elements 74, 68, and 62, Fig. 3);

an address table (**Virtual Networking Device maintains a translation table that maps**

IP addresses to Ethernet/MAC addresses, see page 5, paragraph 0049, lines 1-8 and Fig. 5);

a computer (**a server of Virtual Network A**, see element 74, Fig. 3) having an address

(**the server has a physical address**, see page 2, paragraph 0011, lines 18-23), said computer (**a**

server of Virtual Network A, see element 74, Fig. 3) coupled to one of said plurality of ports (**a**

server of the Virtual Network A coupled to the right end point of the switch, Fig. 3); and

a private network (**MPLS core network**, element 60, Fig. 3) assigned to said one of said

plurality of ports connected to said computer by said switch (**MPLS core network assigned to**

the right end point of the Smart Bridge or switch, element 66, Fig. 3) according to said

address table (**the switch uses the Virtual Network Identifier included in the packet by the**

Virtual Networking Device, see page 2, paragraph 0012, lines 1-13; note that the Virtual

Network Identifier is an entry field in the translation table of the Virtual Networking Device, see

Fig. 5), wherein said computer (**a server of Virtual Network A**, see element 74, Fig. 3)

communicates with said private network (**communicates with MPLS core network**) via said

one of said plurality of ports (**via the right end point of the Smart bridge or switch**) and said

switch (**Smart bridge or switch, element 66**, Fig. 3).

Regarding claim 2, Tingley discloses the system of claim 1, wherein said private network

is a virtual local area network (**Virtual Network is identified by VLAN ID, which shows that**

the Virtual Network is a virtual local area network, see page 4, paragraph 0041, lines 1-3).

Regarding claim 3, Tingley discloses the system of claim 1, wherein said address table is

stored at said switch (**Virtual Networking Device maintains a translation table that maps IP**

addresses to Ethernet/MAC addresses, see page 5, paragraph 0049, lines 1-8 and Fig. 5).

Regarding claim 4, Tingley discloses the system of claim 1, wherein said address table

includes an address to identify said computer (**Ethernet/MAC address**, see page 5, paragraph

0049, lines 1-11 and Fig. 5).

Regarding claim 5, Tingley discloses the system of claim 4, wherein said address is a

media access control address (**MAC address**, see page 5, paragraph 0049, lines 1-11 and Fig.

5).

Regarding claim 6, Tingley discloses the system of claim 1, wherein said switch includes

a wire to said port (**the Virtual Network Specific Ethernet Link 68 that connects switch 66 to

the end point of Virtual Network A**, see Fig. 3).

Regarding claim 7, Tingley discloses the system of claim 1, further comprising an

Ethernet switch for controlling an Ethernet network (**Switch 66**, see element 66, Fig. 3).

Regarding claim 8, Tingley discloses the system of claim 1, further comprising a

broadband connection connecting said network with an external virtual private network (see page

7, paragraph 0066, lines 1-14).

Regarding claim 9, Tingley discloses a method for communicating over a network from a

plurality of ports, the method comprising:

issuing a data packet having an address from a computer (**a server from a Virtual

Network sends an ARP request packet having a virtual IP address**, see page 2, paragraph

0011, lines 5-9 and 18-23 and Fig. 3) connected to one of a plurality of ports (the end point of the

switch that connects to the Virtual Network A, see elements 74, Fig. 3);

determining a network (**MPLS core network**, see element 60, Fig. 3) accessible by said

computer (**server from a Virtual Network**, see element 74, Fig. 3) according to an address

table using said address (**Virtual Networking Device on the edge of the core network receives

the ARP request packet from Virtual Network A and translates the IP address of the

request packet into Ethernet/MAC address of the Virtual Router responsible for

responding to the request in the core network**, see page 4, paragraph 0041, lines 1-11 and Fig.

3) ; and

assigning said network (**assigning MPLS core network**) to said one of said plurality of

ports (**to the right end point of the switch**) by a switch (**switch 66 assigns ports to Virtual

Networks**, see page 2, paragraph 0012, lines 1-5 and Figs. 3 and 5) coupled to said plurality of

ports (**the end point of the Smart Bridge or switch is interpreted as a port that couples to

the Virtual Networking Device VND and the end points of the switch that connects to the

Virtual Networks A, B, C are considered as other ports**, see elements 74, 68, and 62, Fig. 3),

wherein said computer (**a server of Virtual Network A**, see element 74, Fig. 3) communicates

with said network (**communicates with MPLS core network**) via said one of said plurality of

ports (**via the right end point of the Smart bridge or switch**) and said switch (**Smart bridge

or switch**, element 66, Fig. 3).

Regarding claim 11, Tingley discloses the method of claim 9, further comprising

accessing said address table containing said address (see page 5, paragraph 0049, lines 1-8).

Regarding claim 12, Tingley discloses the method of claim 11, further comprising

updating said address table (**storing the Ethernet/MAC address of the response in the**

Ethernet/MAC address field of the entry in the translation table, see page 5, paragraph 0050,

lines 30-35).

Regarding claim 14, Tingley discloses the method of claim 9, further comprising sending

an alarm message when said address does not correspond to said network (**ARP request packet**

and the destination address are added to a table of unresolved entries, see page 7, paragraph

0064, lines 1-7; this table of unresolved entries is considered as an alarm message).

Regarding claim 15, Tingley discloses the method of claim 9, further comprising

receiving data from said network at said one of said plurality of ports (**Virtual Networking**

Device receives ARP request packet from Virtual Network A at the designated port

connecting switch 66 and Virtual Network A, see page 4, paragraph 0041, lines 1-11 and Fig.

3).

Regarding claim 16, Tingley discloses the method of claim 9, further comprising

accessing shared resources from said one of said plurality of ports (**accessing VLAN tagged**

Ethernet link from the port that couples to Virtual Network A, see element 64, Fig. 3).

Regarding claim 17, Tingley discloses a method for assigning (see page 2, paragraph

0012, lines 1-18) an external network (**MPLS core network**, see element 60, Fig. 3) to one of a

plurality of ports (**the end point of the Smart bridge or switch that connects to the Virtual**

Network A is considered as other ports, see elements 74, 68, and 62, Fig. 3) using a switch

(**Switch 66**, see Fig. 3), comprising:

receiving data from said external network (**Servers for Virtual Network receives data**

from core network 60, see page 2, paragraph 0012, lines 6-10, Fig. 3);

sending a data packet to said port (**MPLS core network sending packets to Servers for**

Virtual Network, see page 2, paragraph 0012, lines 6-10);

retrieving an address from said port in response to said data packet (**the Virtual**

Networking Device looks up the entry that corresponds to the destination IP address, see

page 2, paragraph 0012, lines 1-8);

creating a virtual network (**Virtual Network A**, element 74, Fig. 3) correlating to said

external network (**Switch 66 inserts Virtual Network Identifier information into the packet**

header to mark it as belonging to a particular Virtual Network, see page 2, paragraph 0012,

lines 13-18); and

assigning said virtual network (**Virtual Network A**, element 74, Fig. 3) to said one of

said plurality of ports according to said address (**switch 66 assigns port-based Virtual Network**

to distribute packets to the proper servers and such servers are accessible via virtual IP

addresses within the private IP address spaces of the associated Virtual Networks, see page

2, paragraph 0012, lines 1-5 and page 1, paragraph 0010, lines 12-16), communication between

said virtual network (**communication between Virtual Network A**) and one of said plurality of

ports (**and the right end point of the Smart bridge or switch**) occurs via said switch (**occurs**

via Smart bridge or switch, element 66, Fig. 3).

Regarding claim 18, Tingley discloses the method of claim 17, further comprising finding

said address in an address table at said switch (**locating the source IP address of the packet**

response in the translation table of the Virtual Networking Device, see page 5, paragraph

0050, lines 1-36).

Regarding claim 19, Tingley discloses the method of claim 17, wherein said receiving

step includes receiving said data via an Ethernet hub (**switch 66 is an Ethernet hub**, see Fig. 3).

Regarding claim 20, Tingley discloses a switch coupled to a broadband connection (see

page 7, paragraph 0066, lines 1-14), and connected to a plurality of ports (**the endpoints of the**

Virtual Network Specific Ethernet Links 68, 70, 72, Fig. 3), comprising:

an address table listing addresses that correspond to a plurality of private networks

(**translation table that comprises VLAN ID that identifies each of the Virtual Networks**, see

Fig. 5); and

a switch fabric (**switch 66**, see element 66, Fig. 3) coupled to said plurality of ports to

support said plurality of private networks (**the endpoints of the Virtual Network Specific**

Ethernet Links 68, 70, 72 that couple switch 66 to Virtual Networks A, B, C, respectively,

see Fig. 3), and;

a computer (**Virtual Networking Device**, element 62, Fig. 3) connected to one of said

plurality of ports (**connected to one of the right end point of the Smart bridge or switch**,

element 66, Fig. 3) and assigned to one of said plurality of private networks (**assigned to one of**

the ports that connects to one of **Virtual Networks A, B, C, elements 74, 76, 78**, Fig. 3),

wherein said computer (**Virtual Networking Device**, element 62, Fig. 3) communicates with

said one of plurality of private networks (**communicates with Virtual Network A**) via said one

of said plurality of ports (**via the right end point of the Smart bridge or switch**) and said

switch (**Smart bridge or switch**, element 66, Fig. 3).

Regarding claim 21, Tingley discloses the switch of claim 20, further comprising a

memory that stores said address table (**each of the entries in the table 120 of Fig. 5 would be**

the leaf of a tree data structure, see page 7, paragraph 0059, lines 18-19).

Regarding claim 23, Tingley discloses a switch (**Switch 66**, see Fig. 3) that assigns ports

(**assigning port-based Virtual Networks**, see page 2, paragraph 0012, lines 1-18), said switch

coupled to a computer-readable medium (memory), said computer-readable medium having

instructions stored thereon (**Virtual Networking Device consists of processors and associated**

memory for program code storage, see page 21, paragraph 0027, lines 10-13), the instructions

comprising steps for:

receiving data from said external network (**Servers for Virtual Network receives data**

from MPLS core network 60, see page 2, paragraph 0012, lines 6-10, Fig. 3);

sending a data packet to one of a plurality of ports (**sending packets to the port**, see

page 2, paragraph 0012, lines 6-10) connected to a computer (**connected to Virtual Networking**

Device VND, element 62, Fig. 3);

retrieving an address from said port in response to said data packet (**the Virtual Networking Device looks up the entry that corresponds to the destination IP address**, see page 2, paragraph 0012, lines 1-8);

creating a virtual network correlating to said external network (**Switch 66 inserts Virtual Network Identifier information into the packet header to mark it as belonging to a particular Virtual Network**, see page 2, paragraph 0012, lines 13-18); and

assigning said virtual network (**Virtual Network A, element 74, Fig. 3) to said one of plurality of ports (assigned to one of the right end points of switch 66**, Fig. 3) according to said address (**switch 66 assigns port-based Virtual Network to distribute packets to the proper servers and such servers are accessible via virtual IP addresses within the private IP address spaces of the associated Virtual Networks**, see page 2, paragraph 0012, lines 1-5 and page 1, paragraph 0010, lines 12-16), wherein said computer (**Virtual Networking Device**, element 62, Fig. 3) communicates with said one of plurality of private networks (**communicates with Virtual Network A**) via said one of said plurality of ports (**via the right end point of the Smart bridge or switch 66**) and said switch (**Smart bridge or switch, element 66**, Fig. 3).

Regarding claim 24, Tingley discloses the switch of claim 23, farther comprising switch fabric (switch 66, see Fig. 3) coupling said switch (**Switch 66**, see element 62, Fig. 3) to said plurality of ports (**see the endpoints of Virtual Networks A, B, and C**, Fig. 3).

Regarding claim 25, Tingley discloses a broadband connection system, comprising:

an Ethernet hub (**Virtual Networking Device**, element 62, Fig., 3) for supporting virtual

private networks (**for supporting Virtual Networks A, B, and C**, see Fig. 3); and

a switch (**switch 66**, see element 66, Fig. 3) having an address table (**would include**

information in the VLAN ID field indicating a particular Virtual Network, see paragraph

0047) to assign said one of said virtual private networks (**Virtual Networks A, B, C**, elements

74, 76, 78, Fig. 3) to one of a plurality of ports (**one of the ports of switch 66**, Fig. 3) connected

to a computer (**Virtual Networking Device VND**, element 62, Fig. 3) according to an address

table (**Virtual Networking Device inserts a VLAN ID field containing information**

identifying the associated Virtual Network for each packet, see page 5, paragraph 0047, lines

7-10), wherein said computer (**VND**, see element 62, Fig. 3) communicates with said one of said

virtual private networks (**communicates with one of Virtual Networks A, B, C**, Fig. 3) via said

one of said plurality of ports (**via the right end point of the Smart bridge or switch**) **and said**

switch (Smart bridge or switch, element 66, Fig. 3).

Regarding claim 26, Tingley discloses the broadband connection system of claims 25,

further comprising ports coupled to said switch (**see endpoints of switch that couple to Virtual**

Networks A, B, and C, Fig. 3), wherein said virtual private networks are assigned to said one of

said plurality of ports (**switch 66 assigns port-based Virtual Network in order to distribute**

packets to the proper servers of the Virtual Network, see page 2, paragraph 0012, lines 1-5).

Regarding claim 27, Tingley discloses the broadband connection system of claim 25,

further comprising an address stored in said address, said address correlating to one of said

virtual private networks table (**IP address**, see Fig. 5).

Regarding claim 28, Tingley discloses a method for exchanging information over a

virtual local area network (**Virtual Network A**, see Fig. 3) at one of a plurality of ports (**see the**

endpoint of Virtual Network A, Fig. 3), comprising:

coupling a computer (**coupling Virtual Networking Device VND**, element 62, Fig. 3) at

one of said plurality of ports (**at one of the right end points of switch 66**, Fig. 3);

issuing a data packet having an address from said computer (**VND 62 sending ARP**

request packets having virtual IP address of server, see page 2, paragraph 0012, lines 6-10

and page 1, paragraph 0010, lines 6-9) to a switch (to switch 66, Fig, 3);

identifying said virtual local area network (identifying VLAN) according to said address

(**according to VLAN tag**, Fig. 3);

assigning said virtual local area network to said port (**assigning port-based Virtual**

Network according to VLAN ID, see page 2, paragraph 0012, lines 1-5);

accessing said virtual local area network (**accessing VLAN Ethernet**, see Fig. 3) to said

computer (**to said VND**, see Fig. 3) at said one of said plurality of ports (**at the port assigned by**

switch 66, see page 2, paragraph 0012, lines 1-5); and

exchanging information over said virtual local area network (**exchanging data packets**

over VLAN Ethernet, Fig. 3) from said computer (**from the VND**, element 74, Fig. 3) to a

virtual private network (to Virtual Network A, element 60, Fig. 3), wherein said virtual private

network (**Virtual Network A**) corresponds to said address (**virtual IP address corresponds to Virtual Network**, see page 2, paragraph 0013, lines 1-8).

Regarding claim 29, Tingley discloses the method of claim 28, wherein said identifying includes accessing an address table at said switch, said address table storing said address corresponding to said virtual local area network (**translation table that comprises IP address that corresponds to each VLAN ID**, see Fig. 5).

Regarding claim 31, Tingley discloses the method of claim 28, further comprising blocking said computer from said virtual local area network when said address is not identifiable by said switch (**when there is no ARP reply, a table entry for the destination IP address would be deleted from the table of the unresolved entries, resulting in packet being discarded**, see page 7, paragraph 0065, lines 1-11; when there is no ARP reply, connection would be established from the core network to the Virtual Network).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 10, 13, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tingley

in view of Miner (USP 6,804,332).

Regarding claim 10, Tingley discloses all the aspects of the claimed invention set forth in

the rejection of claim 9 above, except fails to explicitly show the method of claim 9, further

comprising determining if said one of said plurality of ports is assigned.

However, Miner discloses an electronic assistant device that comprises a switching

resource to switch multiple communications channels together (see col. 9, lines 28-30 and col.

10, lines 28-29 and Fig. 2). Miner further discloses the switching resource will deallocate ports

from the channel when the subscriber is disconnected from a call session (see col. 35, lines 7-20)

and would reallocate the port for use to other channels if the port becomes unassigned.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the port assigning operation of the switch in Tingley with the port

deallocation method of Miner when the subscriber is disconnected from the network such that

the port assignment will be determined. The motivation to do so is to detect the availability of a

port for use in a channel connection because other sessions would then be able to use the

deallocated port for exchanging information.

Regarding claim 13, Tingley discloses all the aspects of the claimed invention set forth in the rejection of claim 9 above, except fails to explicitly show the method of claim 9, further comprising unassigning said one of said plurality of ports when said computer is disconnected from said network. However, Miner discloses an electronic assistant device that comprises a switching resource to switch multiple communications channels together (see col. 9, lines 28-30 and col. 10, lines 28-29 and Fig. 2). Miner further discloses the switching resource will deallocate ports from the channel when the subscriber is disconnected from a call session (see col. 35, lines 7-20) and would reallocate the port for use to other channels if the port becomes unassigned. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the port assigning operation of the switch in Tingley with the port deallocation method of Miner when the subscriber is disconnected from the network. The motivation to do so is to detect the availability of a port for use in a channel connection because other sessions would then be able to use the deallocated port for exchanging information.

Regarding claim 30, Tingley discloses all the aspects of the claimed invention set forth in the rejection of claim 28 above, except fails to explicitly show the method of claim 28, further comprising revoking access at said port when said virtual local area network is terminated. However, Miner discloses an electronic assistant device that comprises a switching resource to switch multiple communications channels together (see col. 9, lines 28-30 and col. 10, lines 28-29 and Fig. 2). Miner further discloses the switching resource will deallocate ports from the channel when the subscriber is disconnected from a call session (see col. 35, lines 7-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the port assigning operation of the switch in Tingley with the port

deallocation method of Miner when the subscriber is disconnected from the network. The

motivation to do so is to free up the resources that are required to support the connection because

other sessions would then be able to use the deallocated port for other connections.

5.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tingley in view

of Thornton et al. (USP 6,363,065).

Regarding claim 22, Tingley discloses all the aspects of the claimed invention set forth in

the rejection of claim 28 above. Tingley further discloses storing the Ethernet/MAC address of

the response in the Ethernet/MAC address field of the entry in the translation table (see page 5,

paragraph 0050, lines 30-35). Tingley does not explicitly show the switch of claim 20, wherein

said addresses are deleted from said address table. However, Thornton discloses a routing

process in which the routing table would add or delete addresses (see col. 37, lines 11-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the entry population in the address table of the switch in Tingley with the

method of deleting addresses from the address table during the routing process as taught by

Thornton. The motivation to do so is to dynamically remove addresses from the address table

after a predetermined period of time so that the storage space saved by removing the address can

be used for storing other new addresses.

6.   Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tingley in

view of Fluss (USP 6,304,578).

Regarding claim 32, Tingley discloses a system for exchanging information (see Fig. 3)

from a plurality of ports (**see endpoints from switch 66 to Virtual Networks A, B, and C**) to

external private networks (**Virtual Networks A, B, and C**, Fig. 3), comprising:

a switch (**Switch 66**, see Fig. 3) coupled to said plurality of ports (see endpoints that

couple Switch 66 to Virtual Networks A, B, and C), said switch including an address table

(**Virtual Networking Device maintains a translation table that maps IP addresses to**

Ethernet/MAC addresses, see page 5, paragraph 0049, lines 1-8 and Fig. 5);

a virtual local area network created by said switch according to an address in said address

table (**Switch 66 inserts Virtual Network Identifier information into the packet header to**

mark it as belonging to a particular Virtual Network according to the lookup for the

destination IP address, see page 2, paragraph 0012, lines 13-18 and page 2, paragraph 0013,

lines 1-8), and assigned to a port of said plurality of ports (see page 2, paragraph 0012, lines 1-

5);

a computer coupled to said port (**servers for Virtual Network A is coupled to the end**

point of the Virtual Network Specific Ethernet Link 68, see Fig. 3), said computer (**servers**

for Virtual Network A, see element 74, Fig. 3) including an address (**the server has a physical**

address, see page 2, paragraph 0011, lines 18-23) correlating to said virtual local area network

(**the physical address maps to the virtual IP address of the Virtual Network**, see page 1,

paragraph 0010, lines 1-16).

Tingley does not explicitly show a modem coupled to said switch via an Ethernet hub,

said modem to exchange information from said virtual private network assigned to said port to

an external virtual private network corresponding to said computer, via said port and via said switch.

However, Fluss discloses a cable modem system where a cable modem is coupled to a switch via the Ethernet hub (see elements 200, 203, 206, 102, Fig. 1) where it is used to exchange information from subscribers to web server. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of using a switch for exchanging information for the Virtual Networks with the method of exchanging information using cable modem and Ethernet hub taught by Fluss. Having a cable modem coupled to Switch 66 would provide the combination such that a computer that is supported by cable modem would be able to exchange information with Virtual Networks that are supported by the switch. The motivation to do so is to make the communications possible between cable modem subscribers of an external virtual private network and virtual networks of servers so that subscribers can access servers at Virtual Networks via the cable modem connection.

Regarding claim 33, Tingley discloses all the aspects of the claimed invention set forth in the rejection of claim 9 above, except fails to explicitly show the system of claim 32, further comprising a broadband connection to said modem, said broadband connection including said external virtual private network.

However, Tingley further discloses that broadband signaling technique can be used to implement the method of Tingley (see page 7, paragraph 0066, lines 1-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

modify the method of using a switch for exchanging information for the Virtual Networks such

that broadband connection is made to connect the subscribers to the cable modem such as the

broadband signaling technique taught by Tingley. The motivation to do so is to provide larger

bandwidth for subscribers to support bandwidth intensive multimedia applications when

accessing servers of the virtual networks.

Regarding claim 34, Tingley further discloses the system of claim 32, wherein said

address table is stored as a file (see page 7, paragraph 0059, lines 18-22).

Regarding claim 35, Tingley further discloses the system of claim 32, further comprising

a private port coupling said virtual local area network to said switch (**see the endpoint of**

Virtual Network A that couples Virtual Network A to switch 66 and Virtual Networking

Device, Fig. 3).

Response to Arguments

7.   Applicant's arguments filed on 1/23/2006 have been fully considered but they are not

persuasive.

Applicant argued on page 1, fourth paragraph of applicant's Remarks that the Tingley

application fails to teach or suggest "a method or system for exchanging information on a

network comprising a private network assigned to said one of said plurality of ports connected to

said computer by said switch according to said address table, wherein said computer

communicates with said private network via said one of said plurality of ports and said switch,"

the Examiner respectfully disagrees. It is recognized that the core network using Multi-Protocol

Label Switching MPLS (see element 60, Fig. 3), is now interpreted as "a private network." "The

said one of plurality of ports" recited in claim 1 is a port of the Smart bridge or switch that

connects the switch to Virtual Network A as shown in Fig. 3. One of the servers in one of virtual

networks VN is interpreted as a computer while the Smart bridge or switch is considered as the

switch recited in claim 1. In light of this reasoning, Tingley discloses that one of the

servers/computers communicates with the core network using MPLS via one of the ports of the

Smart bridge or switch (packets are sent from the servers to the VND, see page 7, lines 11-13 of

the Tingley provisional application). Therefore, it reads on the above claimed limitations and

also meets applicant's argument that a private network and a computer are two separate entities

as described in page 2, second paragraph of applicant's Remarks, which the applicant allegedly

argued that Tingley provisional application fails to teach.   Likewise, the same reasoning applies

to the same argument described on page 2, second and third paragraphs, page 3, fourth and fifth

paragraphs, page 4, fourth and fifth paragraphs, and page 7, first paragraph of applicant's Remarks.

In response to applicant's arguments on page 7, second paragraph of the Remarks, that Fluss fails to teach "said modem to exchange information from said private network assigned to said port to an external virtual private network corresponding to said computer, via said port and said switch," the Examiner respectfully disagrees because applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the Fluss reference.

In light of the foregoing, claims 1-9, 11-12, 14-21, 23-29 and 31 stand rejected under 35 U.S.C. §102 as being anticipated by Tingley, claims 10, 13, 22, 30, 32-35 stand rejected under 35 U.S.C. §103 as being unpatentable over Tingley in view of Miner, claim 22 stands rejected under 35 U.S.C. §103 as being unpatentable over Tingley in view of Thornton, and claims 32-35 stand rejected under 35 U.S.C. §103 as being unpatentable over Tingley in view of Fluss.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kevin Mew whose telephone number is 703-305-5300. The

examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Frank Duong can be reached on 571-272-3164. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FRANK DUONG
PRIMARY EXAMINER

Kevin Mew
Work Group 2616